

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/802,975	AHMED ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	James J. Leybourne	2881	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Response to Office Action received December 24, 2003.
2. ☒ The allowed claim(s) is/are 1-38.
3. ☒ The drawings filed on 12 March 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
  - \* Certified copies not received: \_\_\_\_\_.
5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
  - (a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No. \_\_\_\_\_.
  - (b) ☐ including changes required by the proposed drawing correction filed \_\_\_\_\_, which has been approved by the Examiner.
  - (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the margin according to 37 CFR 1.121(d).

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |   |
|---|---|
| 1 <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 5 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)          |
| 2 <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 6 <input type="checkbox"/> Interview Summary (PTO-413), Paper No. _____.            |
| 3 <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No. _____  | 7 <input type="checkbox"/> Examiner's Amendment/Comment                             |
| 4 <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material | 8 <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
|   | 9 <input type="checkbox"/> Other _____  |

**DETAILED ACTION**

1. According to the "Response to Office Action " received December 24,2003 claim 39 has been cancelled.

***Allowable Subject Matter***

2. Claims 1-38 are allowed.
3. The following is an examiner's statement of reasons for allowance:

Regarding independent claim 1, the prior art fails to disclose or make obvious an apparatus for producing a flux of charge carriers comprising a source which comprises an emitter having a nanometer scale tip radius on a common substrate with an extractor arranged no more than 50nm from the emitter and a specimen adjacent the source, to receive a flux of charge carriers from the source.

Claims 1-26 are allowed by virtue of their dependency on claim 1.

With respect to independent claim 27, the prior art fails to teach or fairly suggest an apparatus for producing a flux of charge carriers comprising: a source which comprises an emitter and an extractor wherein the emitter and the extractor are configured on a common substrate and a specimen, wherein the emitter and the specimen are arranged in a near-field configuration.

Claims 28-31 are allowed by virtue of their dependency on claim 27.

With respect to independent claim 32, the prior art fails to disclose or make obvious an apparatus for producing a flux of charge carriers comprising: a source which comprises: an emitter and an extractor wherein the emitter and the extractor are configured so as to allow extraction of charge carriers under a gaseous atmosphere without ionization of the gas and a specimen adjacent the source.

Claims 33-35 are allowed by virtue of their dependency on claim 32.

With respect to independent claim 36, the prior art fails to disclose or make obvious an apparatus for producing a flux of charge carriers comprising: a source which comprises: an emitter and an extractor to extract charge carriers from the emitter and configured to extract charge carriers while a turn-on bias of less than 100V is applied to the extractor relative to the emitter and a specimen adjacent the source.

Claim 37 is allowed by virtue of its dependency on claim 36.

With respect to independent claim 38, the prior art fails to disclose or make obvious a method of producing a flux of charge carriers comprising: providing a source as described in claim 1 and providing a specimen adjacent the source, to receive a flux of charge carriers from the source.

The inventors published descriptions of the source in 1997 but did not describe it disposed next to a specimen. None of the cited references or the art searched discloses or teaches alone or in combination the application of a source with these characteristics adjacent a specimen.

4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance"

***Relevant Prior Art***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Keesmann et al. (USPN 5773921) disclose a field emission source using a nanotube emitter and an extractor on a common substrate.

***Conclusion***


6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James J. Leybourne whose telephone number is (571) 272-2478. The examiner can normally be reached on M-F 9:00- 6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R Lee can be reached on (571) 272-2477. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-4116.

January 24, 2004

JJL

  
JOHN R. LEE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800